

Quindar
**SOLID STATE
SYSTEMS**

Throughout the world, as industrial and public installations become larger and more complex, and their control demands become more critical, electronic systems are being called upon to handle operational and telemetry functions. The performance of these electronic systems is amazing, both in the variety of applications and in the ability of the equipment to meet the demands of reliability, accuracy, flexibility and economy placed on it.

Quindar modular design, solid state systems for remote control, report-back and telemetry fulfill every conceivable system requirement. The wide range of frequency division and time division multiplex modules produced by Quindar permit design for greatest practicality and economy in any size system.

Quindar is one of the few major companies which manufacture the components and equipment as well as produce complete systems. From initial planning through initial operation, Quindar systems engineers assume complete responsibility for

analysis of requirements, systems design, installation, start-up and personnel training programs.

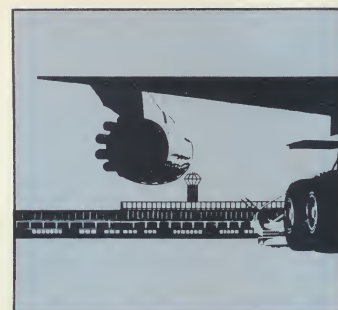
Constant contact with the many industries where control and telemetry systems are applicable, and continuous discussion, investigation and analysis of changing requirements by our systems engineers allow Quindar to anticipate and meet new user needs . . . to produce "user-designed" systems from Quindar modules.

As a leading designer and manufacturer of equipment and integrated systems for telemetering, remote control, alarm monitoring and other types of data transmission, including teletype and telephone signaling, Quindar has supplied a large and varied list of industries and utilities. Some of the applications include:

WATER AND GAS DISTRIBUTION

Remote control and indication of pumping and compression stations.

Remote measurement of levels, flow, pressures, etc. Demand monitoring, digital telemetering



PETROLEUM AND GAS PIPELINES

Remote control and indication of pumps, valves, compressor stations, etc.

Centralization of measurements of pressure level, flow, density, etc.

PETROCHEMICAL

Operations control.

Tank gauging.

Remote control of off-shore drilling.

ELECTRICITY

Supervisory control of power stations and substations.

Centralization of measurements of V, I, LW, KVARs, etc., in coordinating

dispatching rooms.

Protective relaying.

TRAFFIC CONTROL

Traffic counting and surveillance.

Remote control of signals, lighting, closed circuit TV monitor cameras.

TELECOMMUNICATIONS

Tone transmission of telegraph signals.

Microwave repeater station

control and alarm supervision.

In band and out of band control and signaling communications, amplifiers and filters.

SECURITY

Transmission of emergency alarms: burglary, illegal entry, fire, etc.

MILITARY

Remote control of unmanned vehicles.

Range instrumentation and checkout for missiles.

MISCELLANEOUS

Airport control of lighting and navigational devices.

River and Port traffic control, automatic piloting.

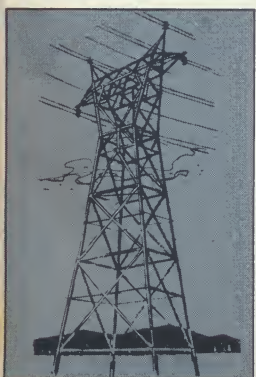
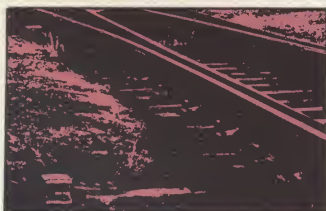
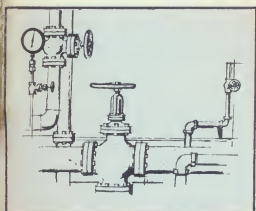
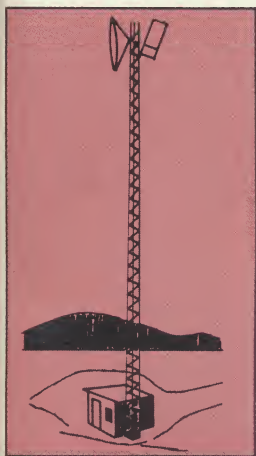
Railway remote control and signaling.

Weather data collection.

Mining operations control.

Broadcast transmitter remote control.

The use of this type of automation equipment increases efficiency in operations by centralizing control and supervision. It can provide continuous knowledge of operating conditions over all or any part of the operation so that problems can be instantly recognized, with means provided to immediately correct or adjust the system. These systems provide more efficient operation, better service to customers, greater reliability, and yet pay for themselves through the resulting decrease in costs.

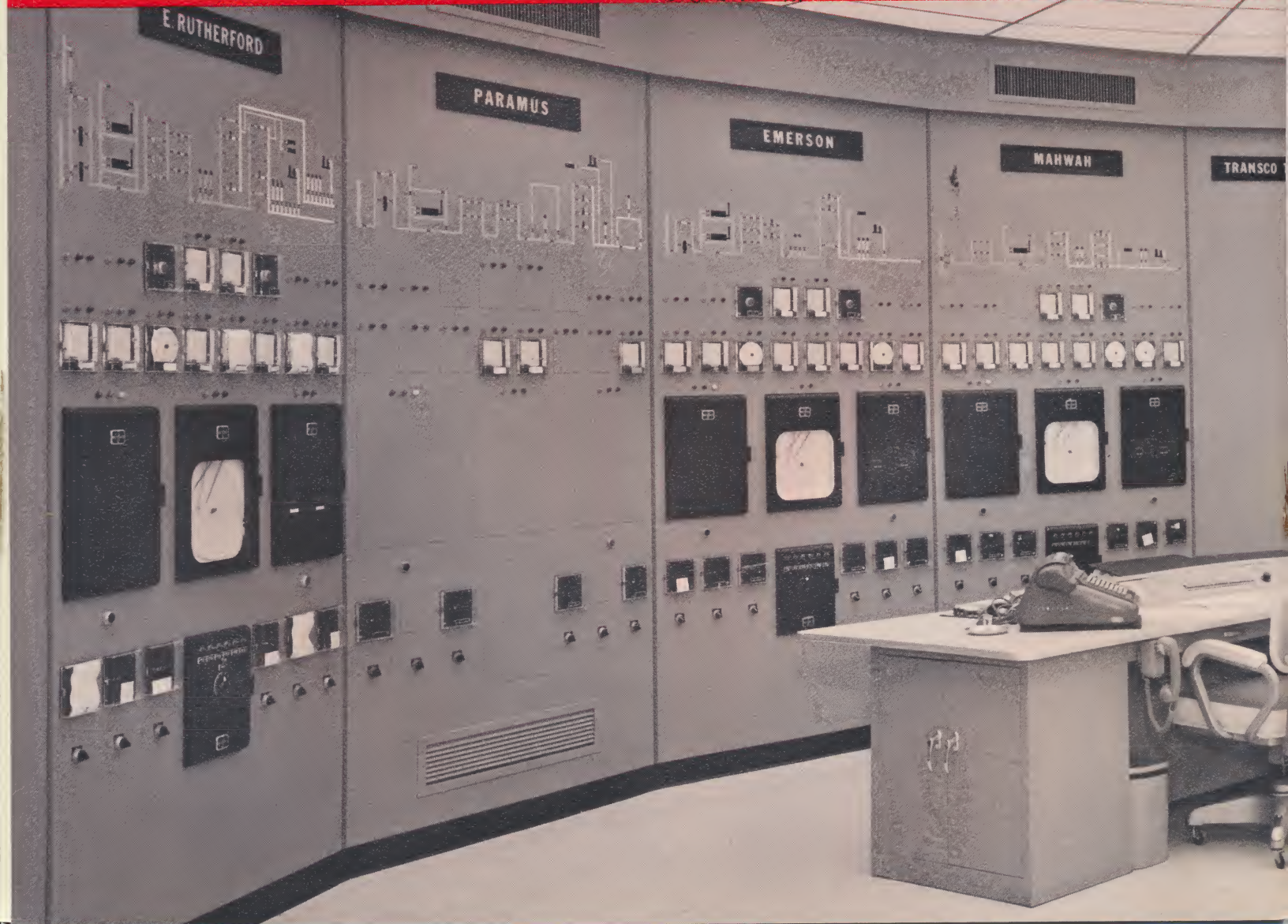
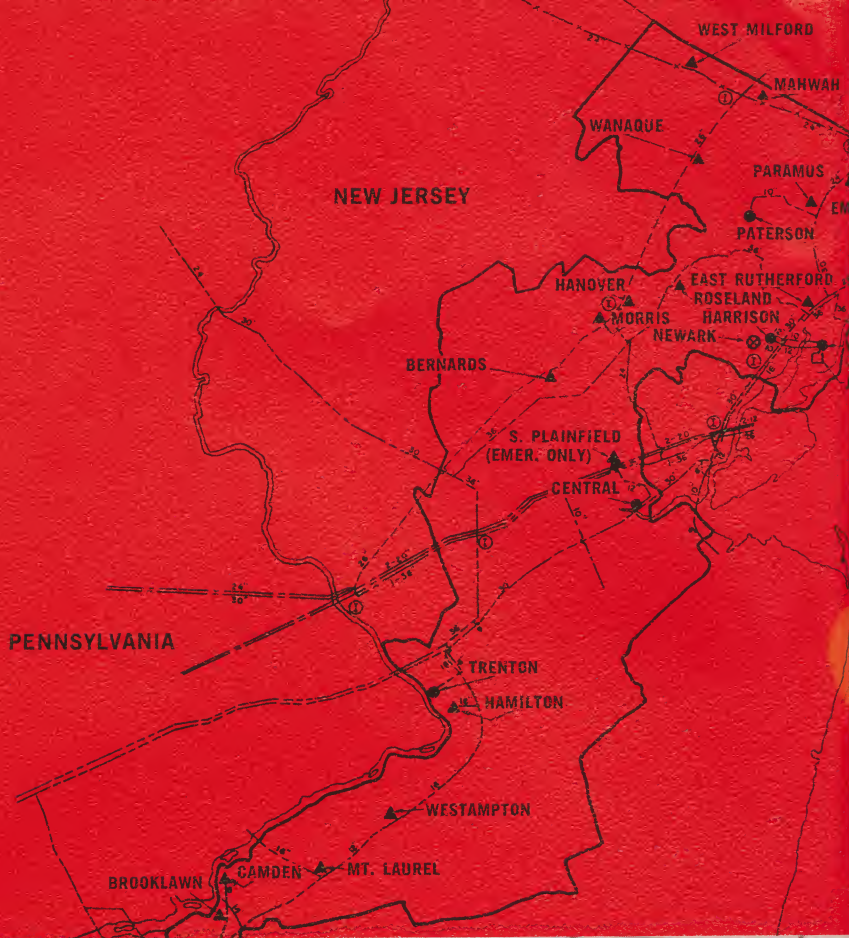


Constant report and control of the gas distribution network serving a majority of New Jersey's population is handled through Public Service Electric & Gas Co's Quindar system.

This constantly up-dated system provides dependable and accurate reporting of gas loads at all times, and transmits controls from the dispatching center in Jersey City, N.J. to the metering stations throughout the vast Public Service territory.

Fourteen functions are reported by the Quindar audible tone system including corrected "Q" which is the rate of flow of gas through the station. In addition the system transmits information relative to all pressures in the service area and other data.

Approximately 14 different supervisory and telemetering signals are transmitted from each station to the control center and approximately 12 control signals are returned, providing constant, absolute control of every station in the Public Service network.





The cabinet on the left contains Quindar modules which make up a portion of the telemetering system controlling gas distribution throughout the Public Service territory today.



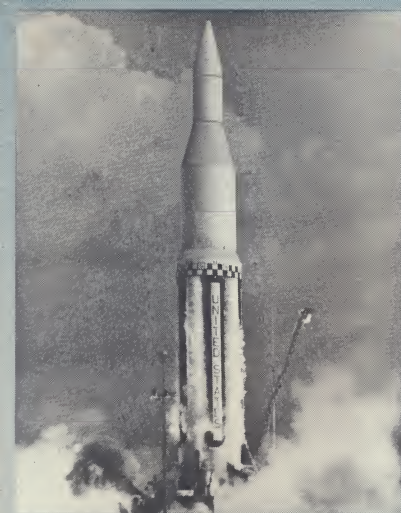
This metering station at Hamilton, New Jersey is typical of stations throughout the Public Service system. The excellent results of remote supervisory control of telemetering systems in stations such as this over the past five years have led to the complete Quindar system in use today.

Below: This control center, located in Jersey City, receives reports from twelve Public Service metering stations, analyzes data and transmits control signals through the Quindar system. The

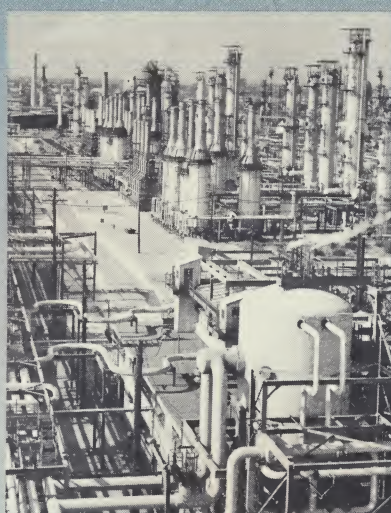
solid state system here in the control center and in the metering stations utilize standard Quindar modules, and were designed and installed by Quindar engineers and technicians.







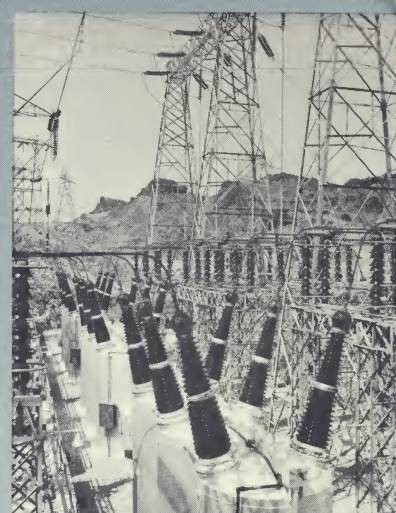
In the U.S. space program, Quindar systems provide control and telemetering of critical variables and alarms and transmit this data to the control center.



In the pipelining of petroleum, petrochemicals and gas, Quindar systems provide constant, efficient supervision and control. Metering, valve operation, measurement and report-back are among the many functions of Quindar systems in operation throughout the world.



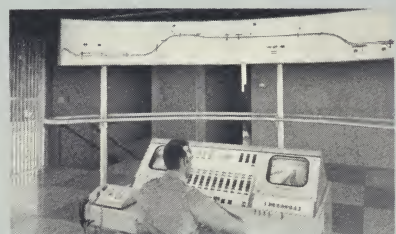
Off-shore drilling and producing rigs such as this one off the coast of Louisiana use Quindar systems in alarms, general transmission and control operations. Both manned and unmanned producing rigs rely on dependable Quindar systems for transmission of data between the rig and the land-based station.



Power Transmission networks rely on Quindar systems for switching and relay control, and for telemetering and constant supervision. Instant alarm and telemetering of completed operations and data are two of the varied operations of Quindar systems in the field of power transmission.



Steel plants such as this one use Quindar systems for telemetering of gas flow to open hearth furnaces. Other applications in this vast industry include alarm systems, control and supervision of electrical and water systems and similar critical operations.



The Seattle Freeway is a typical example of the use of Quindar systems in traffic control. Here, the Quindar installation reports vehicle flow, controls TV, cameras, operates directional signals, signs, barrier gates and provides report-back on completed operations.

The new Verrazano-Narrows Bridge, world's longest suspension bridge, is another example of the recently installed Quindar systems for traffic control. Control and supervision of bridge functions are provided by Quindar modules combined in a system.

**QUINDAR
SOLID STATE
EQUIPMENT
INCLUDES**

Audio Tone
Signaling Units

Time Division
Multiplex Equipment

Analog Telemetry

Digital Telemetry

Supervisory Control Systems

Communications Amplifiers

Filters and
Communications Accessories

TTY Modules

DC Power Supplies



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**SOLID STATE
SYSTEMS**

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